IN THE CLAIMS:

The claims are amended as follows:

1. (Previously Presented) An echo cancellation system (11), comprising:

a microphone (18), responsive to an echo signal (22) from a loudspeaker (16) that provides an acoustic output signal in response to a voice signal (20), for providing an echo signal which is a component of a microphone signal (28); and

a statistical adaptive-filter controller (40), responsive to the voice signal (20) and to an echo reduced microphone signal (34), for providing a first control signal (42) to an echo canceller module (21) and a second control signal (44) to a postfilter (14), wherein said first and second control signals are determined jointly by said statistical adaptive-filter controller and provided for optimizing cancellation of the echo signal in a frequency domain and the first control signal (42) is determined according to:

$$\mu(k) = \frac{|G'|^2 \, \Phi_{XX}(k)}{\Phi_{ee}(k)},$$

wherein $|G'|^2$ is a predetermined constant and $\Phi_{XX}(k)$ and $\Phi_{ee}(k)$ denote power spectral density signals of the voice signal (20) and of the echo reduced microphone signal (34), respectively, and k is a frame time index.

2. (Previously Presented) The echo cancellation system (11) of claim 1, wherein the first control signal (42) is a step-size signal which is used to determine a gradient change of an echo transfer function signal (15) provided to an echo canceller (10)

of the echo canceller module (21) according to a predetermined criterion.

3. (Original) The echo cancellation system (11) of claim 1, wherein the second control signal (44) is a further transfer function signal of the postfilter (14), said further transfer function signal weights an echo reduced microphone signal (34).

4. (Original) The echo cancellation system (11) of claim 1, further comprising the postfilter (14), responsive to an echo reduced microphone signal (34) and to the second control signal (44), for providing an output system signal (36).

5. (Original) The echo cancellation system (11) of claim 1, further comprising the echo canceller module (21), responsive to the voice signal (20), to the first control signal (42), and to an echo reduced microphone signal (34), for providing an estimated echo signal (32) to an adder (30).

6. (Original) The echo cancellation system (11) of claim 5, wherein the echo canceller module (21) comprises an echo canceller (10) responsive to the voice signal (20) and to an echo transfer function signal (15), for providing an estimated echo signal (32) to the adder (30).

7. (Original) The echo cancellation system (11) of claim 5, wherein the echo canceller module (21) comprises a gradient adaptation means (12), responsive to the voice signal (20), to the first control signal (42), for providing for an echo transfer function signal (15) to the echo canceller (10).

8. (Original) The echo cancellation system (11) of claim 5, further comprising the postfilter (14), responsive to an echo reduced microphone signal (34) and to the second control signal (44), for providing an output system signal (36).

9. (Original) The echo cancellation system (11) of claim 1, further comprising an adder (18), responsive to a microphone signal (28) and to an estimate echo signal (32), for providing an echo reduced microphone signal (34).

10. (Cancelled)

11. (Original) The echo cancellation system (11) of claim 1, wherein the statistical adaptive-filter controller (40), the echo canceller module (21) and the postfilter (14) operate in a frequency domain, and said first and second control signals are provided in the frequency domain as well.

12. (Previously Presented) An echo cancellation system (11), comprising:

a microphone (18), responsive to an echo signal (22) from a loudspeaker (16) that provides an acoustic output signal in response to a voice signal (20), for providing an echo signal which is a component of a microphone signal (28); and

a statistical adaptive-filter controller (40), responsive to the voice signal (20) and to an echo reduced microphone signal (34), for providing a first control signal (42) to an echo canceller module (21) and a second control signal (44) to a postfilter (14), wherein the echo canceller module (21) operates in a time domain and the postfilter (14) operates in a frequency domain, and the first control signal is provided in the time

domain and the second control signal is provided in the frequency domain, respectively.

13. (Original) The echo cancellation system (11) of claim 11, wherein the frequency domain is implemented as a Discrete Fourier Transform (DFT) domain.

14. (Previously Presented) The echo cancellation system (11) of claim 13, wherein the statistical adaptive-filter controller (40) is further comprising:

a first power spectral density means (40b), responsive to the voice signal (20), for providing a first power spectral density signal (46) of the voice signal (20);

a second power spectral density means (40c), responsive to an echo reduced microphone signal (34), for providing a second power spectral density signal (48) of the echo reduced microphone signal (34); and

a statistical adaptive-filter estimator (40a), responsive to the first and to the second power spectral density signals (46, 48), for providing the first and for the second control signals (42, 44).

15. (Previously Presented) The echo cancellation system (11) of claim 1, wherein the first control signal (42) is a step-size signal which is used according to a predetermined criteria to determine a gradient change of an echo transfer function signal (15) provided to an echo canceller (10) of the echo canceller module (21).

16. (Previously Presented) The echo cancellation system (11) of claim 1, wherein the second control signal (44) is a further

transfer function signal of a postfilter (14), said further transfer function signal weights an echo reduced microphone signal (34) and it is determined according to:

$$H(k)=\frac{\Phi_{ee}(k)-|G(k)|^2\,\Phi_{XX}(k)}{\Phi_{ee}(k)},$$

wherein $|G(k)|^2$ is determined by solution of a difference equation:

$$|G(k+1)|^2=|G(k)|^2\,(1-2\mu(k))+\mu(k)\,|G'|^2.$$

17. (Previously Presented) A method for acoustic echo control, comprising the steps of:

providing (100) an echo signal which is a component of a microphone signal (28) of a microphone (18) which is responsive to an echo signal (22) from a loudspeaker (16) that provides an acoustic output signal in response to a voice signal (20); and

providing (108) a first control signal (42) to an echo canceller module (21) and a second control signal (44) to a postfilter (14) by a statistical adaptive-filter controller (40) which is responsive to the voice signal (20) and to an echo reduced microphone signal (34),

wherein said first and second control signals are determined jointly by said statistical adaptive-filter controller and provided for optimizing cancellation of the echo signal in a frequency domain and the first control signal (42) is determined according to:

$$\mu(k)=\frac{|G'|^2\,\Phi_{XX}(k)}{\Phi_{ee}(k)},$$

wherein $|G'|^2$ is a predetermined constant and $\Phi_{XX}(k)$ and $\Phi_{ee}(k)$ denote power spectral density signals of the voice signal

(20) and of the echo reduced microphone signal (34), respectively, and k is a frame time index.

18. (Previously Presented) The method of claim 17, wherein the first control signal (42) is a step-size signal which is used to determine a gradient change of an echo transfer function signal (15) provided to an echo canceller (10) of the echo canceller module (21) according to a predetermined criterion.

19. (Original) The method of claim 17, wherein the second control signal (44) is a further transfer function signal of a postfilter (14), said further transfer function signal weights an echo reduced microphone signal (34).

20. (Currently Amended) The method of claim ~~15~~ 17, prior to the step of providing (108) the first and second control signals (42, 44), further comprising the step of:

determining (104, 106) the first and the second control signals by a statistical adaptive-filter controller (40).

21. (Original) The method of claim 20, further comprising the steps of:

determining (112) an estimated echo signal (32) by the echo canceller module (21) using the first control signal provided by the statistical adaptive-filter controller (40); and

determining (114) an echo reduced microphone signal (34) by an adder (28) by adding the estimate echo signal (32) to a microphone signal (18).

22. (Original) The method of claim 21, further comprising the steps of:

determining (116) an output system signal (36) by the postfilter (14) using the second control signal provided by the statistical adaptive-filter controller (40).

23. (Previously Presented) An echo cancellation system (11), comprising:

a microphone (18), responsive to an echo signal (22) from a loudspeaker (16) that provides an acoustic output signal in response to a voice signal (20), for providing an echo signal which is a component of a microphone signal (28); and

a statistical adaptive-filter controller (40), responsive to the voice signal (20) and to an echo reduced microphone signal (34), for providing a first control signal (42) to an echo canceller module (21) and a second control signal (44) to a postfilter (14), wherein said first and second control signals are provided for optimizing cancellation of the echo signal in a frequency domain, and wherein a residual echo power transfer function $|G(k)|$, corresponding to a residual echo impulse response $g(i) = h(i) - w(i)$, wherein $h(i)$ and $w(i)$ are impulse responses of an acoustic echo path and an echo canceller (10) of said echo canceller module (21), respectively, is determined by a solution of a difference equation:

$$|G(k+1)|^2 = |G(k)|^2 \left(1 - 2\mu(k)\right) + \mu(k)\,|G'|^2 ,$$

wherein $|G'|^2$ is a predetermined constant, $\mu(k)$ is the first control signal (42) and k is a frame time index.